

Claims

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1. A star connected wound rotor for a miniature electric motor comprising: a shaft; an armature core fitted to the shaft and having a plurality of armature poles; a commutator having a plurality of commutator segments for making sliding contact with a brush assembly, the commutator being fitted to the shaft adjacent a first end of the armature core; a star connector; and a plurality of coils forming an armature winding, each coil being wound around an armature pole and being terminated on a segment of the commutator and on the star connector, characterized in that

5 the star connector comprises a base of insulating material fitted to the shaft adjacent a second end of the armature core and a terminal ring of conductive material fitted to the base and having a number of terminals connected to the coils, thereby forming a star connected armature winding.

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15 2. A rotor as defined in claim 1 wherein the base has at least one detent for keying the terminal ring to the base to prevent relative rotational movement therebetween.

20 3. A rotor according to claim 1, wherein the base has a cylindrical portion for receiving the terminal ring and the terminal ring has a split with a free internal diameter less than the diameter of the cylindrical portion.

25 4. A rotor according to claim 1, wherein the terminal ring is formed from sheet material of copper or copper alloy.

5. A rotor according to claim 1, wherein the base is molded from insulating resin material.

30 6. A star connector for a wound rotor of a miniature electric motor comprising a base of insulating resin material and a terminal ring of conductive material fitted to the base and having a number of terminals for connection of one end of each coil of the wound rotor.

35 7. A star connector according to claim 6, wherein the base has a cylindrical portion for receiving the terminal ring and the terminal ring is split with a free internal diameter less than or equal to the diameter of the cylindrical portion.

Sub A

8. A star connector according to claim 6, wherein the terminal ring is formed from sheet material containing copper.
9. A star connector according to claim 6, wherein the base has at least one detent for keying the terminal ring to the base to prevent the terminal ring from rotating about the base.
10. A star connector according to claim 6, wherein the base is adapted to receive a shaft of the motor and to function as a spacer.
11. A star connector for electrically connecting together lead wires from coils of a wound rotor of a miniature d.c. electric motor, the connector comprising:
 - a base for direct mounting onto a shaft of the rotor; and
 - a conductive ring having terminals for termination of the lead wires;
15. wherein the base has a central boss portion with a central opening for receiving the shaft, a wall extending radially from the boss, a skirt extending axially from the radially outer edge of the wall, a number of openings in the skirt and a number of buttresses formed on the wall and the base remote from the skirt but adjacent the openings, and
20. wherein the conductive ring has a flat ring portion located against the wall of the base and supported by the skirt and having a number of terminals extending radially from the ring portion, each terminal having an axially U-shaped portion, the terminals extending through the openings in the skirt with the U-shaped portions located radially adjacent the buttresses.
25. 12. A star connector according to claim 11, wherein the skirt has a tapered inner surface forming a mouth.
30. 13. A star connector according to claim 11, wherein the skirt has a plurality of detents for retaining the connector ring against the radial wall.
14. A star connector according to claim 11, wherein the base has a number of detents for retaining the connector ring against the radial wall.